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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/517,036	10/25/2005	Toru Okabe	P/2850-102	2806

2352 7590 02/05/2007  
OSTROLENK FABER GERB & SOFFEN  
1180 AVENUE OF THE AMERICAS  
NEW YORK, NY 100368403

EXAMINER
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ZHU, WEIPING

ART UNIT	PAPER NUMBER
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1742

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	02/05/2007	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

**Office Action Summary**

Application No.

10/517,036

Applicant(s)

OKABE ET AL.

Examiner

Weiping Zhu

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 29 January 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) 12-15 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date See Continuation Sheet.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

**DETAILED ACTION**

***Election/Restrictions***

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:
  - I. Claims 1-11, drawn to a process for producing a metal powder, classified in class 419, subclass 026.
  - II. Claims 12-15, drawn to a metal compound feed compact, classified in class 75, subclass 228.

The inventions are independent or distinct, each from the other because:

Inventions I and II are related as process of making and product made. The inventions are distinct if either or both of the following can be shown: (1) that the process as claimed can be used to make another and materially different product or (2) that the product as claimed can be made by another and materially different process (MPEP § 806.05(f)). In the instant case, the metal compound feed compact as claimed can also be produced by a materially different process such as extrusion.

Because these inventions are independent or distinct for the reasons given above and there would be a serious burden on the examiner if restriction is not required because the inventions have acquired a separate status in the art in view of their different classification, restriction for examination purposes as indicated is proper.

During a telephone conversation with Mr. Max Moskowitz on January 22, 2007 a provisional election was made with traverse to prosecute the invention of I, claims 1-11. Affirmation of this election must be made by applicant in replying to this Office action.

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Claims 12-15 are withdrawn from further consideration by the examiner, 37

CFR 1.142(b), as being drawn to a non-elected invention.

### ***Claim Interpretation***

2. A metal powder production process is claimed in the instant claim 1. However the process steps recited in the instant claim 1 indicate the claimed process is to produce a reduced metallic feed compact. The preamble of the instant claim 1, therefore, will not be given patentable weight.

### ***Claim Objections***

3. Claims 4, 5, 7 and 13-15 are objected to because of the following informalities:

The word "and" in line 2 of claim 4, line 2 of claim 7, line 3 of claim 13, line 3 of claim 14 and lines 2 and 3 of claim 15 should be changed to "or";

In claim 5, line 2, "a" prior to "binder" should be changed to "the";

The word "an" in line 2 of claim 7 should be changed to "the".

Appropriate correction is required.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-3 and 6-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Löffelholz et al. (US 6,136,062) in view of Takahar et al. (US 5,417,917).

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With respect to claim 1, Löffelholz et al. ('062) disclose a method for producing niobium and/or tantalum powders by reducing the metal compounds with an active metal as a reducing agent (col. 1, lines 34-38).

Löffelholz et al. ('062) do not teach the molding step features as claimed.

Takahar et al. ('917) disclose a method for producing a metallic porous membrane comprising: mixing a powdery metal compound with a binder; molding the mixture to a desired shape; and sintering the compact to produce a sintered metal compound compact followed by a reducing step (col. 3, lines 46-68).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to mold the mixture of the particles to a desired shape and sinter it to a sintered compact as disclosed by Takahar et al. ('917) in the process of Löffelholz et al. ('062) in order to improve the quality of the final product and be well feasible to the industrial practice as disclosed by Takahar et al. ('917) (col. 4, lines 1-7).

With respect to claims 2, 3, 6-9 and 11, Löffelholz et al. ('062) disclose that niobium oxide and tantalum oxide can be reduced (col. 1, lines 60-61); the preferred reducing metals are magnesium, calcium, lanthanum and cerium, magnesium is particularly preferred (col. 1, lines 62-65); the reducing temperature is between 750 and 850° C (col. 1, lines 49-59), which is within the claimed reducing temperature, a prima facie case of obviousness exists, MPEP 2144.05 I; the reduction product is freed from alkaline earth oxides and /or rare earth oxides formed in the reduction and from excess alkaline earth metal and/or rare earth metal by acid washing (col. 1, lines 42-47).

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With respect to claim 10, Takahar et al. ('917) disclose the mixture is molded to a shape of 70 mm in diameter and about 2 mm thick (col. 1, lines 48-50), which is within the claimed range of non longer than 10 mm.

5. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Löffelholz et al. ('062) in view of Takahar et al. ('917) as applied to claim 1 above and further in view of Honma et al. (US 3,839,020).

With respect to claim 4, Löffelholz et al. ('062) in view of Takahar et al. ('917) do not teach the claimed features.

Honma et al. ('020) disclose a method for reducing zirconium compounds by contacting an active metal (abstract).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to substitute niobium oxide with a zirconium compound to be reduced by contacting an active metal as disclosed by Honma et al. ('020) in the process of Löffelholz et al. ('062) in view of Takahar et al. ('917) in order to produce highly uniform and pure zirconium alloy ingots efficiently and economically as disclosed by Honma et al. ('020) (col. 2, lines 11-20), when it is desired to form a zirconium compact.

6. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Löffelholz et al. ('062) in view of Takahar et al. ('917) as applied to claim 1 above and further in view of Kamei et al. (US 6,015,527):

With respect to claim 5, Löffelholz et al. ('062) in view of Takahar et al. ('917) do not teach the claimed features.

Kamei et al. ('527) disclose a method for producing reduced iron comprising mixing metal compound, powdery reductants (i.e. active metal as claimed) and a binder and compacting the mixture in a sheet-like shape (col. 8, lines 29-34 and 62-65).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to mix the metal compound, reductants and a binder together for molding as disclosed by Kamei et al. ('527) in the process of Löffelholz et al. ('062) in view of Takahar et al. ('917) in order to produce highly uniform and pure titanium and zirconium alloy ingots efficiently and economically as disclosed by Kamei et al. ('527) (col. 8, lines 29-34 and 62-65).

### ***Conclusion***

7. This Office action is made non-final. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Weiping Zhu whose telephone number is 571-272-6725. The examiner can normally be reached on 8:30-16:30 Monday to Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy King can be reached on 571-272-1244. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

WZ

1/29/2007

ROY KANG  
SUPERVISORY PATENT EXAMINER  
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Continuation of Attachment(s) 3). Information Disclosure Statement(s) (PTO/SB/08), Paper No(s)/Mail Date :5/19/2006, 3/10/2005, 12/7/2004.